

8 classes

- ① Basic sorting algorithms  $O(n^2)$
- ② Advanced sorting algorithms  $O(n \log n)$
- ③ Problem solving → 3-4 good (medium)
- ④ Doubt solving → ↘
- ⑤ Searching → Binary search  
→ Ternary search
- ⑥ Problem solving session → 3-4 problems
- ⑦ Binary search on answer [concept + problem solving]
- ⑧ Doubt solving → ↘

Sorting  
 Arranging things in order  
 based on properties of elements

- ① Array (Integer) → ascending / descending
- ② Array of measurements of rectangle pairs → length breadth  
 $[l_1, b_1], [l_2, b_2] \dots [l_i, b_i]$   
 Depends on comparator  
 $\rightarrow A[i] < A[j]$   
 $\rightarrow l_i < l_j$   
 $\rightarrow b_i < b_j$   
 $\rightarrow$  Perimeter

- Given an array of integers, what would be the most (brute force) way to

sort it? → Bubble/Sel/Ins

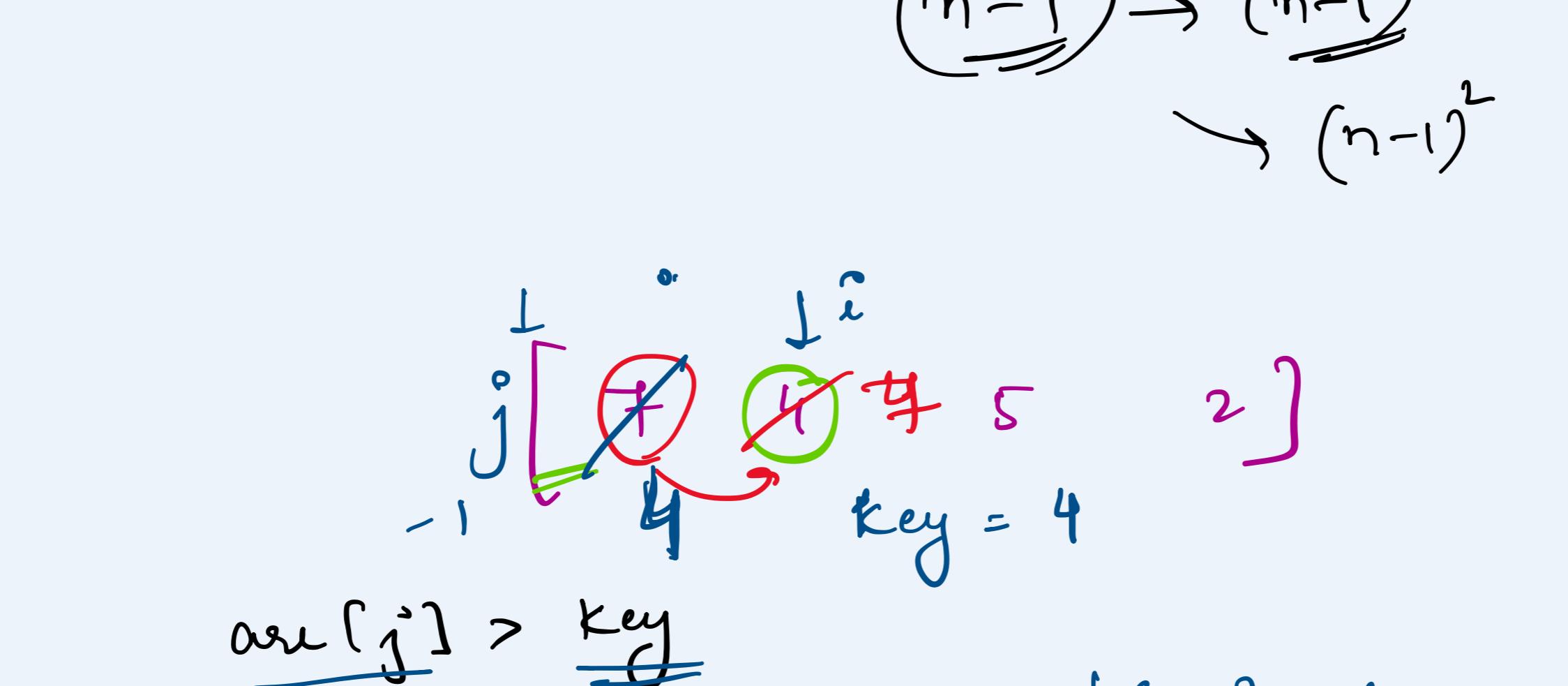
↳ ascending order  
 ↳ Sorted version of an array is nothing but permutation of the original array

Eg: →  $\begin{bmatrix} 2 & 3 & 1 & 4 \\ 1 & 2 & 3 & 4 \end{bmatrix}$

- ① Find all permutations of the given array and then pick the relevant one.

TC →  $N \times n!$

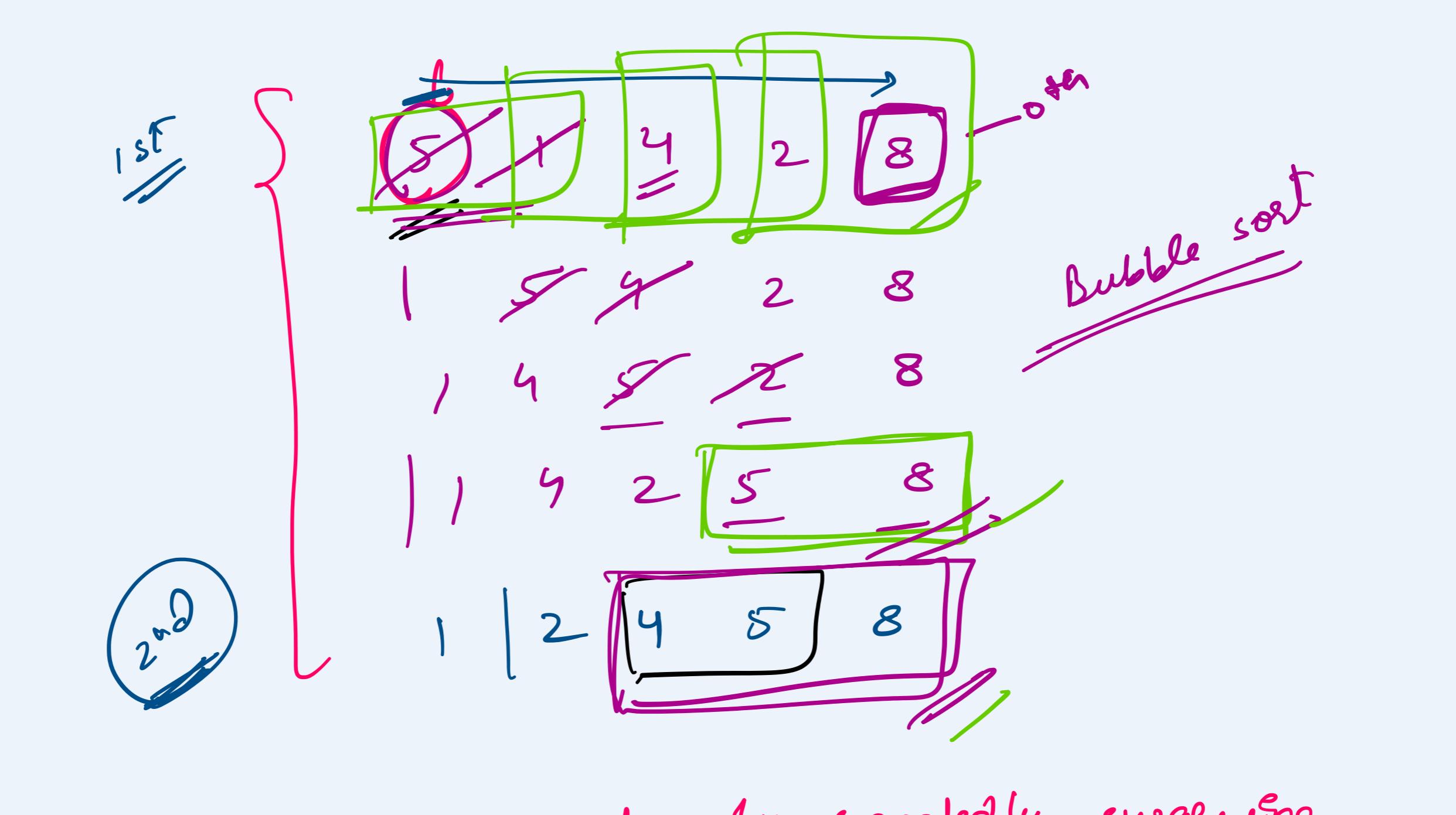
- ② Imagine playing game of cards



$$6 < 8$$

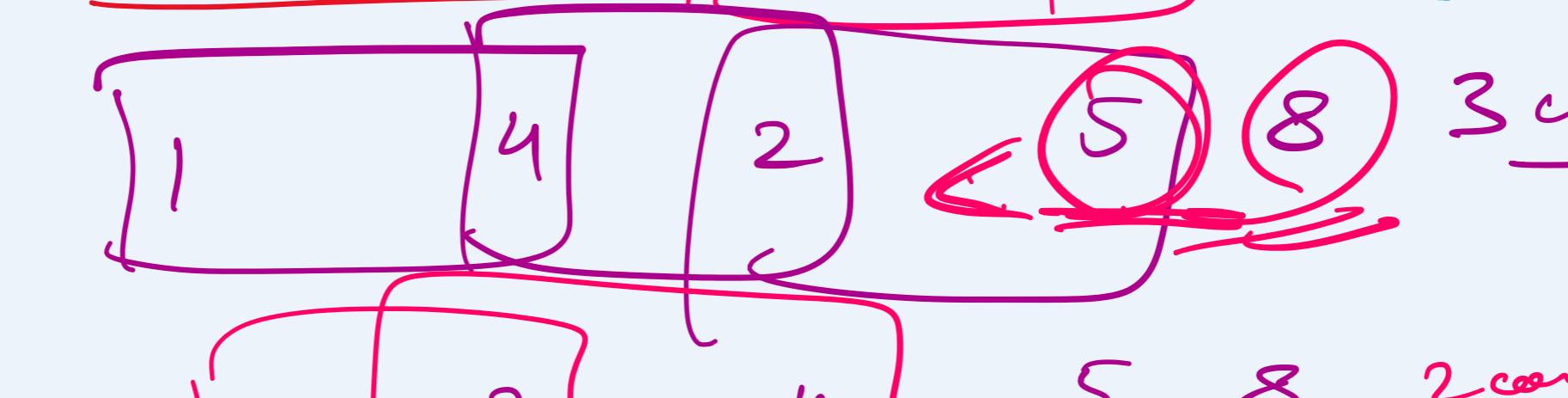
$$9 > 8$$

In each iteration, f was taking an element and placing it at its right position



$$9 < 5$$

$$7 > 5$$



$$2 < 4$$

temp = 2

temp = 2